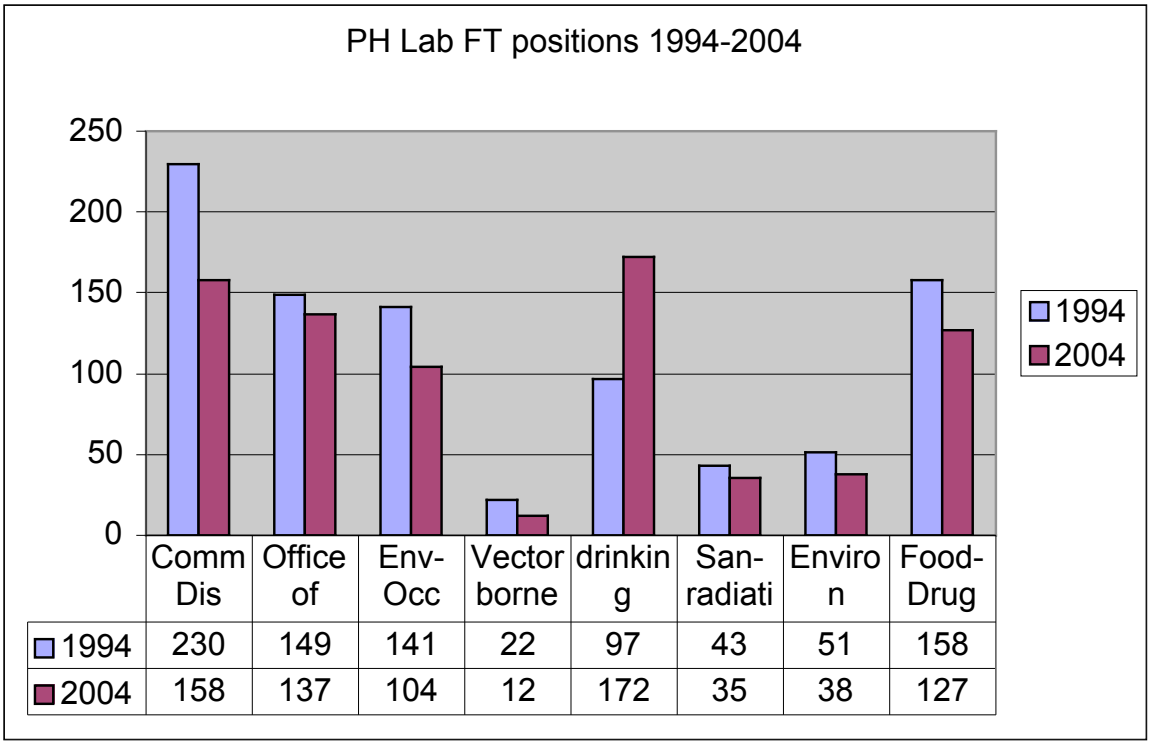
Readiness of California State Public Health to respond adequately to potential bioterrorist event

Concern continues to mount over California's ability to respond adequately in the event of a bioterrorist attack. Whether the nature of the threat is the use of biotoxic weapons, intentional contamination of food and water or infectious spread through humans, animals or insects, the state's capacity for mounting a response has not significantly improved since the funding of bioterrorism preparedness and has continued to degrade over the last 10 years.

Loss of staffing

The Communicable Disease Control Division houses the Microbial Disease Lab, Virus Lab, Immunization Program, Tuberculosis Program, Vectorborne Disease Control and Sexually Transmitted Disease Control programs. Since 1994, this division has lost over 32% of its professional staff overall. Additionally over 50% are older than 50 years old, and presumably soon eligible for state retirement. In fact the state no longer has a parasitologist or mycologist (specialist in fungal diseases) due to retirements. By comparison, of all fifty states, 49% of California's state public health workforce is eligible for retirement within the next five years ranking only slightly above lowest ranked Nebraska's 49.8% .



	Comm Dis	Office of	Env-Occ	Vector borne	drinking	San-radiati	Environ	Food-Drug
1994	230	149	141	22	97	43	51	158
2004	158	137	104	12	172	35	38	127

The Division of Food, Drug and Radiation Safety, Division of Environmental and Occupational Disease Control, and the Office of AIDS, are in similar condition. Although the Communicable Disease Control Division and the Division of Food, Drug and Radiation Safety would presumably be the “first responders" in the context of a bioterrorist threat, the other divisions would normally provide professional "overflow capacity" necessary to mount an emergency response that would require agency notification, mobilization, information management, communications systems, administrative and logistical support. The requirements of this response include agent identification, notification of health and public health providers, strategic communications with the press, containment of the threat, prevention of new cases, and become increasingly tenuous with the level of staff degradation documented above.

Equipment antiquity

The Microbial Disease Laboratory (MDL) is the reference laboratory for California and should be at the cutting edge for diagnostic testing. Unfortunately, it's capacity to do molecular testing and to characterize viruses by molecular typing methods has been severely limited by lack of staff. In addition, the molecular testing equipment is antiquated and inadequate. Molecular typing for viruses such as rabies, enterovirus and caliciviruses is important for recognition of new variants (strains) in the state and plays an important role in the detection of outbreaks. Currently, only very basic molecular typing is being performed due to equipment and personnel constraints. Under conditions where large volumes of samples need molecular testing, automation (robotics) for surge capacity is needed for fast turn-around times and quick epi-response. This is also not currently available.

In addition, in a large scale outbreak, there would be an urgent need for reagents. In the past, there has been technical capacity for conducting over 100 different tests and the lab was also capable of producing necessary reagents. Under current staffing and support, this is also not possible.

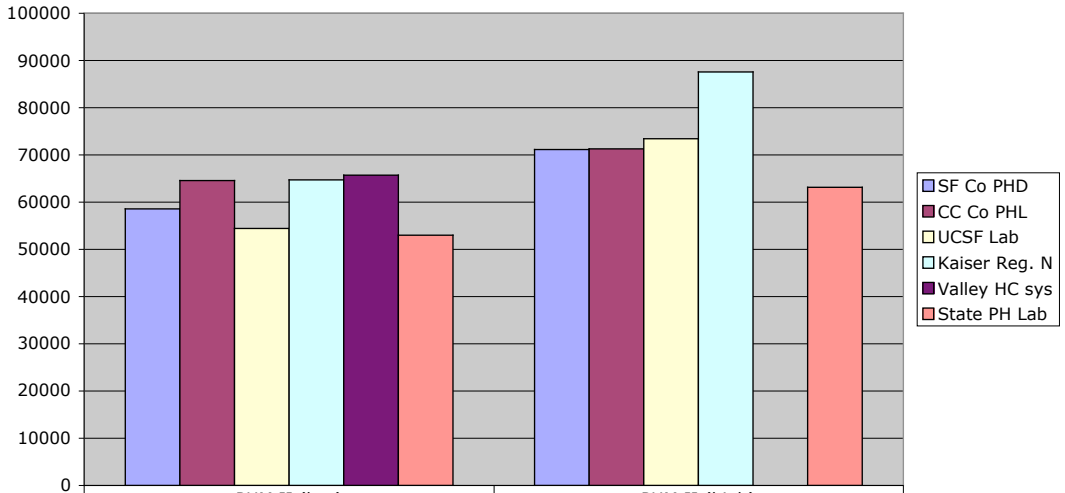
As an example, during the investigation of the Florida anthrax scare in 2001, over 1,000,000 separate anthrax tests were performed by a network of laboratories. If the situation had also required testing of hundreds or thousands of sick patients, as a bioweapon incident could cause, such a network would have been quickly exhausted. In a well orquestrated bio-attack, multiple bioweapons might be used, thus complicating the strategy for testing to identify organisms or agents and requiring multiple tests of impacted or suspected infected individuals. In the current situation, where routine testing needed for surveillance is not being done, a need for surge capacity would fall far short.

Other workforce issues

Salaries

The State Public Health Lab, located in Northern California, pays salaries that are 24% lower than the Northern California average for similar qualifications at the entry-level and 20% lower at the senior-level. As an example, a senior Public Health Microbiologist II earns $63,120 compared to a similar position at Kaiser Regional Lab North making $87,578. At least one of the impact of the salary disparity is that microbial disease laboratory staff has decreased retention.

Public Health Microbiologist II salary comparisons - N. Calif



	PHM II (low)	PHM II (high)
SF Co PHD	58552	71162
CC Co PHL	64581	71243
UCSF Lab	54396	73416
Kaiser Reg. N	64776	87578
Valley HC sys	65769	
State PH Lab	52932	63120

In 1986, the mean age of service of MDL staff was approximately 19 years. In 2003, the

median years of service have dropped to 13 years. By the close of 2006, it is projected to be 8.5 years.

Training

In the past, training has been a primary means of recruiting and retaining qualified staff. However, as the numbers of staff have decreased, so has the capacity to manage and train interns who would become certified, move to career staff positions and over time assume leadership within MDL. Few trainees have been accepted in the last few years.

Conclusion

Detection of a public health threat and prevention of its spread remain the responsiblity of government. The need for a State Public Health Laboratory capable of routine surveillance activities, functioning as a State reference laboratory and ability to surge its capacity in times of threat has been documented elsewhere. The vital capacity of California's Public Health Laboratory to respond to the threats posed by potential bioterrorist acts has degraded over time due to workforce and equipment issues.

Recommendations

The following is strongly recommended in order to assure Californian's of a minimal functioning public health function capable of protecting the public from the preventable sequellae of an intentional biological accident.

1. Independent review of MDL staffing needs with projections to meet adequate staffing patterns for performing minimum laboratory functions
2. Salary review and adjustments that support hiring and retention of qualified staff
3. Review of equipment needs and funding required to maintain laboratory capacity
4. Review of training program and steps taken to recruit and train qualified individuals for future leadership
5. Assure adequate funding that will provide a sufficient measure of safety for the public.

References

Carafano, James Jay, "Improving Federal Response to Catastrophic Bioterrorist Attacks: The Next Steps" The Heritage Foundation, Homeland Security and Research, Backgrounder #1705.

"Ready or Not? Protecting the Public's Health in the Age of Bioterrorism", Trust for America's Health, December 2003 and December 2004.